CLAIMS:

1. A method of improving plant productivity said method comprising introducing into said plant or propagation material thereof:

(i) an effective number of endophytic actinomycetes or variants, mutants or homologues thereof, which actinomycetes facilitate induction of at least one characteristic related to improved productivity; and/or

(ii) an effective amount of one or more metabolites derived from the actinomycetes of (i) or derivative, homologue, analogue, chemical equivalent or mimetic thereof;

for a time and under conditions sufficient to induce, in the subject plant, said characteristic, and wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>1 or a nucleotide sequence capable of hybridising to <400>1 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>2 or a nucleotide sequence capable of hybridising to <400>2 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>7 or a nucleotide sequence capable of hybridising to <400>7 under

low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>10 or a nucleotide sequence capable of hybridising to <400>10 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>12 or a nucleotide sequence capable of hybridising to <400>12 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>13 or a nucleotide sequence capable of hybridising to <400>13 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>16 or a nucleotide sequence capable of hybridising to <400>16 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>18 or a nucleotide sequence capable of hybridising to <400>18 under low stringency conditions at 42°C or a variant, mutant or homologue of said

actinomycete

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>24 or a nucleotide sequence capable of hybridising to <400>24 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

2. A method of improving plant productivity said method comprising introducing into said plant or propagation material thereof:

(i) an effective number of endophytic actinomycetes or variants, mutants or homologues thereof, which actinomycetes facilitate induction of at least one characteristic related to improved productivity; and/or

(ii) an effective amount of one or more metabolites derived from the actinomycetes of (i) or derivative, homologue, analogue, chemical equivalent or mimetic thereof;

for a time and under conditions sufficient to induce, in the subject plant, said characteristic, and wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>3 or a nucleotide sequence capable of hybridising to <400>3 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in

<400>4 or a nucleotide sequence capable of hybridising to <400>4 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>5 or a nucleotide sequence capable of hybridising to <400>5 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>6 or a nucleotide sequence capable of hybridising to <400>6 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>8 or a nucleotide sequence capable of hybridising to <400>8 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>9 or a nucleotide sequence capable of hybridising to <400>9 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>11 or a nucleotide sequence capable of hybridising to <400>11 under

low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>14 or a nucleotide sequence capable of hybridising to <400>14 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>15 or a nucleotide sequence capable of hybridising to <400>15 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(j) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>17 or a nucleotide sequence capable of hybridising to <400>17 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(k) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>19 or a nucleotide sequence capable of hybridising to <400>19 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(l) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>20 or a nucleotide sequence capable of hybridising to <400>20 under low stringency conditions at 42°C or a variant, mutant or homologue of said

actinomycete.

(m) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>21 or a nucleotide sequence capable of hybridising to <400>21 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(n) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>22 or a nucleotide sequence capable of hybridising to <400>22 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(o) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>23 or a nucleotide sequence capable of hybridising to <400>23 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(p) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>25 or a nucleotide sequence capable of hybridising to <400>25 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(q) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>26 or a nucleotide sequence capable of hybridising to <400>26 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(r) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>27 or a nucleotide sequence capable of hybridising to <400>27 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(s) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>28 or a nucleotide sequence capable of hybridising to <400>28 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(t) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>29 or a nucleotide sequence capable of hybridising to <400>29 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete

(u) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>30 or a nucleotide sequence capable of hybridising to <400>30 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

3. The method according to claim 1 or 2, wherein said actinomycete is characterised by a nucleotide sequence which has at least about 45% similarity to all or part of the nucleotide sequence indicated by the nucleotide sequence identification number.

4. The method according to claim 3 wherein said similarity is 50%, preferably 55%, more preferably 60%, still more preferably 65%, even more preferably 70% and most preferably 80%.

5. The method according to claim 3 wherein said actinomycete is selected from:

(a)	EN2	(b)	EN3	(c)	EN16	(d)	EN23
(e)	EN27	(f)	EN28	(g)	EN46	(h)	EN60
(i)	PM87.						

6. The method according to claim 3 wherein said actinomycete is selected from:

(a)	EN5	(b)	EN6	(c)	EN7	(d)	EN9
(e)	EN17	(f)	EN19	(g)	EN26	(h)	EN35
(i)	EN39	(j)	EN57	(k)	SE1	(l)	SE2
(m)	PM36	(n)	PM40	(o)	PM41	(p)	PM171
(q)	PM185	(r)	PM208	(s)	PM228	(t)	PM252
(u)	PM342						

7. The method according to any one of claims 1-6 wherein said metabolite is auxin, gibberellin, cytokinin, indole acetic acid, kinetin or signal molecule able to induce resistance in plants.

8. The method according to any one of claims 1-6 wherein said metabolite is an antibiotic compound.

9. The method according to any one of claims 1-7 wherein said productivity is growth promotion characteristics and/or bio-control characteristics.

10. The method according to claim 9 wherein said growth promotion characteristic is one or more of rate of growth, plant vigour, yield of flower/fruit/grain, vitality of crop or improved seed germination.

11. The method according to claim 9 wherein said bio-control characteristic is a decrease in susceptibility to pathogen infection or an increase in the clearance efficiency of infection.

12. The method according to any one of claims 1-11 wherein said plant is a cereal crop.

13. The method according to claim 12 wherein said cereal crop is a wheat, barley, maize, triticale, rye, oats, canary, sorghum, millet or rice.

14. The method according to claim 11 wherein said bio-control activity is bio-control in relation to *Gaeumannomyces graminis* var. *tritici, Pythium* ssp., *Rhizoctonia solani*, *Fusarium* sp., insect or nematode.

15. The method according to claim 14 wherein said insect is an aphid.

16. The method according to claim 14 or 15 wherein said plant is a cereal plant.

17. The method according to any one of claims 14-16 wherein said actinomycete is selected from EN2, EN3, EN16, EN23, EN27, EN28, EN46, EN60 or PM87.

18. The method according to any one of claims 14-16 wherein said actinomycete is selected from EN9, EN17, EN19, EN26, EN35, EN39, EN57 or SE1.

19. The method according to claim 9 wherein said actinomycete is selected from EN2, EN3, EN16, EN27, EN60 or PM87 and said improved productivity is improved plant growth promotion.

20. The method according to claim 9 wherein said actinomycete is selected from EN6, EN9, EN57, SE1, SE3, PM185 or PM208 and said improved productivity is improved plant growth promotion.

21. The method according to claim 19 or 20 wherein said growth promotion is germination promotion.

22. The method according to claim 19, 20 or 21wherein said plant is a cereal plant.

23. The method according to claim 9 wherein said actinomycete is selected from EN2, EN3, EN16, EN23, EN27, EN28, EN46, EN60 or PM87 and said improved productivity is improved bio-control activity and improved plant growth promotion.

24. The method according to claim 9 wherein said actinomycete is selected from EN9, EN35, EN57, SE1 or SE1 and said improved productivity is improved bio-control activity and improved plant growth promotion.

25. The method according to claim 23 or 24 wherein said plant is a cereal plant.

26. The method according to claim 9 wherein said actinomycete is selected from EN2, EN3, EN16, EN23, EN27, EN28, EN46 or PM87 and said improved productivity is improved bio-control activity.

27. The method according to claim 9 wherein said actinomycete is selected from EN5, EN17, EN19 or EN35 and said improved productivity is improved bio-control activity.

28. The method according to claim 26 or 27 wherein said bio-control activity is bio-control in relation to aphids.

29. The method according to claim 26, 27 or 28 wherein said plant is a cereal plant.

30. The method according to any one of claims 16, 22, 25 or 29 wherein said cereal plant is wheat, barley, maize, rye, triticale, oats, canary seed, sorghum, millet or rice.

31. A method of improving plant productivity said method comprising introducing into said plant or propagation material thereof:

(i) an effective number of at least teo endophytic actinomycete strains or variants, mutants or homologues thereof, which actinomycetes facilitate induction of at least one characteristic related to improved productivity; and/or

(ii) an effective amount of one or more metabolites derived from the actinomycetes of (i) or derivative, homologue, analogue, chemical equivalent or mimetic thereof;

for a time and under conditions sufficient to induce, in the subject plant, said characteristic, and wherein said at least two endophytic actinomycete strains are selected from:

(a) EN2, EN9 and EN23
(b) EN9, EN27 and EN28
(c) EN39 and EN46.

32. A cereal plant-derived endophytic actinomycete or variants, mutants or homologues thereof or metabolites derived therefrom or derivatives, homologues, analogues, chemical equivalents or mimetics thereof for use in the method of any one of claims 1-31 wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>1 or a nucleotide sequence capable of hybridising to <400>1 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>2 or a nucleotide sequence capable of hybridising to <400>2 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>7 or a nucleotide sequence capable of hybridising to <400>7 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>10 or a nucleotide sequence capable of hybridising to <400>10 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>12 or a nucleotide sequence capable of hybridising to <400>12 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>13 or a nucleotide sequence capable of hybridising to <400>13 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>16 or a nucleotide sequence capable of hybridising to <400>16 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>18 or a nucleotide sequence capable of hybridising to <400>18 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>24 or a nucleotide sequence capable of hybridising to <400>24 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

33. A cereal plant-derived endophytic actinomycete or variants, mutants or homologues thereof or metabolites derived therefrom or derivatives, homologues, analogues, chemical equivalents or mimetics thereof for use in the method of any one of claims 1-31 wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in

<400>3 or a nucleotide sequence capable of hybridising to <400>3 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>4 or a nucleotide sequence capable of hybridising to <400>4 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>5 or a nucleotide sequence capable of hybridising to <400>5 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>6 or a nucleotide sequence capable of hybridising to <400>6 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>8 or a nucleotide sequence capable of hybridising to <400>8 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>9 or a nucleotide sequence capable of hybridising to <400>9 under

low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>11 or a nucleotide sequence capable of hybridising to <400>11 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>14 or a nucleotide sequence capable of hybridising to <400>14 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>15 or a nucleotide sequence capable of hybridising to <400>15 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(j) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>17 or a nucleotide sequence capable of hybridising to <400>17 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(k) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>19 or a nucleotide sequence capable of hybridising to <400>19 under low stringency conditions at 42°C or a variant, mutant or homologue of said

actinomycete.

(l) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>20 or a nucleotide sequence capable of hybridising to <400>20 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(m) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>21 or a nucleotide sequence capable of hybridising to <400>21 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(n) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>22 or a nucleotide sequence capable of hybridising to <400>22 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(o) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>23 or a nucleotide sequence capable of hybridising to <400>23 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(p) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>25 or a nucleotide sequence capable of hybridising to <400>25 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(q) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>26 or a nucleotide sequence capable of hybridising to <400>26 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(r) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>27 or a nucleotide sequence capable of hybridising to <400>27 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(s) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>28 or a nucleotide sequence capable of hybridising to <400>28 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(t) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>29 or a nucleotide sequence capable of hybridising to <400>29 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete

(u) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>30 or a nucleotide sequence capable of hybridising to <400>30 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

34. An agricultural composition comprising an endophytic actinomycete or metabolite derived therefrom together with one or more agriculturally acceptable carriers and/or diluents wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>1 or a nucleotide sequence capable of hybridising to <400>1 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>2 or a nucleotide sequence capable of hybridising to <400>2 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>7 or a nucleotide sequence capable of hybridising to <400>7 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>10 or a nucleotide sequence capable of hybridising to <400>10 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>12 or a nucleotide sequence capable of hybridising to <400>12 under

low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>13 or a nucleotide sequence capable of hybridising to <400>13 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>16 or a nucleotide sequence capable of hybridising to <400>16 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>18 or a nucleotide sequence capable of hybridising to <400>18 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>24 or a nucleotide sequence capable of hybridising to <400>24 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

35. An agricultural composition comprising an endophytic actinomycete or metabolite derived therefrom together with one or more agriculturally acceptable carriers and/or diluents wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>3 or a nucleotide sequence capable of hybridising to <400>3 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>4 or a nucleotide sequence capable of hybridising to <400>4 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>5 or a nucleotide sequence capable of hybridising to <400>5 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>6 or a nucleotide sequence capable of hybridising to <400>6 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>8 or a nucleotide sequence capable of hybridising to <400>8 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>9 or a nucleotide sequence capable of hybridising to <400>9 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>11 or a nucleotide sequence capable of hybridising to <400>11 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>14 or a nucleotide sequence capable of hybridising to <400>14 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>15 or a nucleotide sequence capable of hybridising to <400>15 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(j) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>17 or a nucleotide sequence capable of hybridising to <400>17 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(k) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>19 or a nucleotide sequence capable of hybridising to <400>19 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(l) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>20 or a nucleotide sequence capable of hybridising to <400>20 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(m) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>21 or a nucleotide sequence capable of hybridising to <400>21 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(n) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>22 or a nucleotide sequence capable of hybridising to <400>22 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(o) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>23 or a nucleotide sequence capable of hybridising to <400>23 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(p) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>25 or a nucleotide sequence capable of hybridising to <400>25 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(q) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>26 or a nucleotide sequence capable of hybridising to <400>26 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(r) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>27 or a nucleotide sequence capable of hybridising to <400>27 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(s) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>28 or a nucleotide sequence capable of hybridising to <400>28 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(t) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>29 or a nucleotide sequence capable of hybridising to <400>29 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete

(u) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>30 or a nucleotide sequence capable of hybridising to <400>30 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

36. A novel, isolated endophytic actinomycete or variant, mutant or homologue thereof wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>1 or a nucleotide sequence capable of hybridising to <400>1 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) The actinomycete of (a) wherein said actinomycete corresponds to EN2 (AGAL Deposit No. NM03/35895).

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>2 or a nucleotide sequence capable of hybridising to <400>2 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) The actinomycete of (c) wherein said actinomycete corresponds to EN3 (AGAL Deposit No. NM03/36501).

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>7 or a nucleotide sequence capable of hybridising to <400>7 under low stringency conditions at 42°C or a variant, mutant or homologue of said

actinomycete.

(f) The actinomycete of (e) wherein said aci corresponds to EN16 (AGAL Deposit No. NM03/35605).

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>10 or a nucleotide sequence capable of hybridising to <400>10 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) The actinomycete of (g) wherein said actinomycete corresponds to EN23 (AGAL Deposit No. NM03/35605).

(i) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>12 or a nucleotide sequence capable of hybridising to <400>12 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(j) The actinomycete of (i) wherein said actinomycete corresponds to EN27 (AGAL Deposit No. NM03/35606).

(k) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>13 or a nucleotide sequence capable of hybridising to <400>13 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(l) The actinomycete of (i) wherein said actinomycete corresponds to EN28 (AGAL Deposit No. NM03/35607).

(m) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>16 or a nucleotide sequence capable of hybridising to <400>16 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(n) The actinomycete of (m) wherein said actinomycete corresponds to EN46 (AGAL Deposit No. NM03/34609).

(o) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>18 or a nucleotide sequence capable of hybridising to <400>18 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(p) The actinomycete of (o) wherein said actinomycete corresponds to EN60 (AGAL Deposit No. NM03/35896).

(q) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>24 or a nucleotide sequence capable of hybridising to <400>24 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(r) The actinomycete of (q) wherein said actinomycete corresponds to PM87 (AGAL Deposit No. NM03/35608).

37. A novel, isolated endophytic actinomycete or variant, mutant or homologue thereof wherein said actinomycete is selected from:

(a) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>3 or a nucleotide sequence capable of hybridising to <400>3 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(b) The actinomycete according to (a) wherein said actinomycete corresponds to EN5.

(c) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>4 or a nucleotide sequence capable of hybridising to <400>4 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(d) The actinomycete of (c) wherein said actinomycete corresponds to EN6.

(e) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>5 or a nucleotide sequence capable of hybridising to <400>5 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(f) The actinomycete of (e) wherein said actinomycete corresponds to EN7.

(g) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>6 or a nucleotide sequence capable of hybridising to <400>6 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(h) The actinomycete of (g) wherein said actinomycete corresponds to EN9.

(i) The actinomycete of (h) wherein said actinomycete is characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>8 or a nucleotide sequence capable of hybridising to <400>8 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(j) The actinomycete of (i) wherein said actinomycete corresponds to EN17.

(k) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>9 or a nucleotide sequence capable of hybridising to <400>9 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(l) The actinomycete of (k) wherein said actinomycete corresponds to EN19.

(m) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>11 or a nucleotide sequence capable of hybridising to <400>11 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(n) The actinomycete of (m) wherein said actinomycete corresponds to EN26.

(o) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>14 or a nucleotide sequence capable of hybridising to <400>14 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(p) The actinomycete of (o) wherein said subject actinomycete corresponds to EN35.

(q) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>15 or a nucleotide sequence capable of hybridising to <400>15 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(r) The actinomycete of (q) wherein said actinomycete corresponds to EN39.

(s) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>17 or a nucleotide sequence capable of hybridising to <400>17 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(t) The actinomycete of (s) wherein said actinomycete corresponds to EN57.

(u) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>19 or a nucleotide sequence capable of hybridising to <400>19 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(v) The actinomycete of (u) wherein said actinomycete corresponds to SE1.

(w) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>20 or a nucleotide sequence capable of hybridising to <400>20 under

low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(x) The actinomycete of (w) wherein said actinomycete corresponds to SE2.

(y) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>21 or a nucleotide sequence capable of hybridising to <400>21 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(z) The actinomycete of (y) wherein said actinomycete corresponds to PM36.

(aa) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>22 or a nucleotide sequence capable of hybridising to <400>22 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(ab) The actinomycete of (aa) wherein said actinomycete corresponds to PM40.

(ac) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>23 or a nucleotide sequence capable of hybridising to <400>23 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(ad) The actinomycete of (ac) wherein said actinomycete corresponds to PM41.

(ae) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>25 or a nucleotide sequence capable of hybridising to <400>25 under low stringency conditions at 42°C or a variant, mutant or homologue of said

actinomycete.

(af) The actinomycete of (ae) wherein said actinomycete corresponds to PM171.

(ag) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>26 or a nucleotide sequence capable of hybridising to <400>26 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(ah) The actinomycete of (ag) wherein said actinomycete corresponds to PM185.

(ai) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>27 or a nucleotide sequence capable of hybridising to <400>27 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(aj) The actinomycete of (ai) wherein said actinomycete corresponds to PM208.

(ak) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>28 or a nucleotide sequence capable of hybridising to <400>28 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(al) The actinomycete of (ak) wherein said actinomycete corresponds to PM228.

(am) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>29 or a nucleotide sequence capable of hybridising to <400>29 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(an) The actinomycete of (am) wherein said actinomycete corresponds to PM252.

(ao) An actinomycete characterised either by a nucleotide sequence corresponding to the nucleotide sequence substantially as set forth in <400>30 or a nucleotide sequence capable of hybridising to <400>30 under low stringency conditions at 42°C or a variant, mutant or homologue of said actinomycete.

(ap) The actinomycete of (ao) wherein said actinomycete corresponds to PM342.

38. Metabolites derived from the novel actinomycetes according to claims 36 or 37 and derivatives, homologues, analogues, chemical equivalents, mutants and mimetics of said metabolites.

39. An antibody directed to the actinomycete of claims 36 or 37 or the metabolite of claim 37 or derivative, homologue, analogue, chemical eqivalent or mimetic of said antibody.

40. A method of improving plant productivity said method comprising introducing into said plant or propagation material thereof:

(i) An effective number of actinomycetes according to claims 36 or 37 or variants, mutants or homologues thereof and/or

(ii) An effective amount of one or more metabolites derived from the actinomycetes of (i) or derivative, homologue, analogue, chemical equivalent and mimetic thereof.

for a time and under conditions sufficient to induce, in the subject plant, said characteristic.

41. A method of facilitating the biodegradation of biodegradable material, said method comprising contacting said waste material with:

(i) An effective number of actinomycetes according to claims 36 or 37 or variants, mutants or homologues thereof and/or

(ii) An effective amount of one or more metabolites derived from the actinomycetes of (i) or derivative, homologue, analogue, chemical equivalent and mimetic thereof

for a time and under conditions sufficient to induce or otherwise facilitate the degradation of said material.

42. A method for therapeutically and/or prophylactically treating a condition in a subject, the aberrant, unwanted or otherwise inappropriate symptoms, causes or outcomes of which condition are treatable with one or more metabolites derived from the actinomycetes of claims 36 or 37, said method comprising to said subject an effective amount of one or more of said metabolites or derivatives, homologues, analogues, chemical equivalents or mimetics thereof for a time and under conditions sufficient to ameliorate said symptom, cause or outcome.

43. Use of the novel actinomycete of claims 35 or 36or metabolites of claim 37 in the manufacture of a medicament for the therapeutic and/or prophylactic treatment of a mammalian or non-mammalian subject.

44. Use according to claim 43wherein said non-mammalian subject is a plant.

45. Use of the novel actinomycete of claims 36 or 37 or the metabolite of claim 38 in the manufacture of a composition for agricultural application.